The Rosenberg view can replace standardized coronal plane stress radiography in the diagnostic process for Uni-compartmental and Total knee replacements

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Background: Choosing the optimal radiographic methods to diagnose knee osteoarthritis could save both the radiation and cost in the diagnostic process, when considering either a unicompartmental or total knee replacement.
Purpose / Aim of Study: To evaluate and compare the Rosenberg view and standardized varus/valgus stress radiography, this study measured joint space width by determining intra- and interrater agreement and test-retest reliability of radiographs in patients with knee osteoarthritis.
Materials and Methods: A prospective study, including 73 patients. Radiographs were taken with the Rosenberg view and coronal stress radiography with the Telos stress device. Repeated measurements were performed. Experienced knee surgeons performed measurements of joint space width (JSW) and minimal joint space width (mJSW). Three measurement rounds allowed for test-retest reliability and Intra- and Interrater agreement. Coronal stress measurements were compared to the Rosenberg view in the relevant corresponding compartment of the knee.
Findings / Results: A total of 12,264 measurements were performed. The radiographic methods proved substantial reliability. Among raters, Intra- and interrater agreement showed substantial to almost perfect agreement. A very strong correlation was observed in the medial knee compartment (Đ= 0.91; CI = 0.84- 0.95 ; p< 0.001) when comparing JSW between the Rosenberg view and Varus stress. A Strong correlation was observed in the lateral knee compartment (Đ = 0.83 ; CI = 0.71-0.89 ; p < 0.001) when comparing mJSW between the Rosenberg view and Valgus stress.
Conclusions: The Rosenberg view can replace 20° coronal valgus-varus stress radiography, saving the cost of equipment, additional radiographs, specialized staff, and time to set up the device, and potentially increasing hospital cost-effectiveness.